

Signing Design Checklist

1. Check and recheck that there are no inconsistencies between the summary sheets and the other plan sheets in terms of sign color, size, code, etc. The contractor and the field office will be relying almost exclusively on the summary sheets for estimation, color, and payment information – far more than on the location and format sheets. The summary sheets need to ensure that all information is correctly transcribed and it's important that they be absolutely correct.
2. Nothing on the plans are to reference "To be done by ADOT forces." It is to specify the name and phone number of the ADOT person who has accepted any responsibility.
3. Eliminate all sign lighting, except the mainline signs within 2 miles of a freeway to freeway TI, when installing a new sign. The sign sheeting should be upgraded to Type VIII (8) or IX (9) legend on Type III background.
4. Use the correct type sheeting. Refer to the PGP 380 before designing your project. Type III sheeting is now required on all regulatory and warning signs.
5. Don't put any structures within the 30' clear zone unless it is protected by crash cushions or guard rail.
6. Coordinate with adjacent designers to ensure no signs are left off the plans. Before signing off on the plans (at 95% or 100%), drive the project and review the signs. If there is a sign for something in one direction, check to see if there is one in the other direction. . . where it applies. Make sure they correspond to the existing roadway and the roadway currently under construction. A few of many examples of problems that could be averted:
 - a. On L101 near I-17, interchange sequence signing was left out, yet the supports were installed.



- b. On SR 51, the Paradise Valley Community College sign was left out.
- c. On SR 51, the HOSPITAL sign existed in the NB direction but was not placed in the SB direction.
- d. On L202, there were no provisions for the changes in the intersection geometrics. The intersection shown below shows the views from the ramp island and the left turn lane towards each other. Notice there is just one small indicator how far that left turners have to go to take the on-ramp. There was a chance that some left turners might have mistaken it for the off-ramp (Left side of lower picture).



- 7. Ensure there are no missing signs in your plans (per Signing Location Guideline Figures Packet on Traffic Engineering website). This includes: yields, (stop ahead's & signal ahead's on ALL freeway off ramps), one ways, route shields among others.
- 8. Make sure the location are properly located (per Figures Packet). Wrong way signs have been placed on the wrong side of the TI and Do Not Enter's facing flow of traffic.
- 9. Do not install slip bases behind barrier walls or guardrail. See notes on Signing & Marking Standard Drawings S-1.

10. Check that the correct sign size is placed; the size is based on location. Freeway cardinal direction (M3-1,2,3,4) is 30"x15" & crossroad is 24"x12"]



11. Wrong kind of sign (over head shield verses route marker shield). The AZ shape goes on guide signs as legend and the rectangular route shields are mounted as trailblazer or confirmation assemblies.



12. Use the traffic design templates available on the Traffic Engineering website. Make sure to use the right size and font. . they are often too small. In the following cases, the text is too small for the signs: in one, it's the 'TO' in a still unfinished sign and in the other, it's the cardinal directions and city names.



Notice how large the text should be, as shown in the following picture. The size



differences are not just due to photography.

In the final case below, the left arrow is not the correct format.



13. Don't make the sign larger or smaller than it has to be; replace it with the correct size to make it correct. In this case, the first sign is was left too small and the second one is too big.



14. Don't skip cross street and vertical clearance signs on bridge fascia. Vertical clearance signs are only to be placed if it is 16'-0" or less. REMOVE all vertical

clearance signs 16'-1" and above. Refer to PGP 324.



15. Check number of foundations verses the # of posts. Many plans will call out 3 posts and one or two foundations (not totaling three) or 3 slipbases are placed on a one post sign.
16. Refer to Traffic Engineering website for the newest version of the Signing and Marking Standard Drawings, especially to note that ADOT no longer uses S3x5.7 and W12x26 size posts.
17. Off mainline reference markers are to be on U-channel per Std. Dwg. M-30. It is less expensive than square tube posts.
18. Setting signs at ground level due to slope (use common sense). It doesn't matter if it's 7' off the roadway if it's only 1' above the slope. Put signs at least 7' above the ground level – in this case, it'll mean putting this sign at another location.



19. Even on preliminary submittals, sequential sheet numbers (even if hand-lettered) should be provided in the boxes at the upper right corner of the plans for reference during review.

20. Each sign is to have a unique number, based on direction, MP (or station) and additional letters. Each time it is referenced in the plan set should be noted on the sign summary sheets.
21. Whenever possible, when the old and new signs are at the same location, do not use separate lines and entries for removed signs and new signs, even if there are minor changes between the signs. Having multiple entries for the same location can get confusing, and could cause quantity errors and mistakes in the field. Instead, just X in both the "New" and "Remove existing" boxes to note the removals.
22. Replace all posts & signs in the project area. It becomes a maintenance headache to guess which size post to bring out to the boonies.
23. When placing sign back to back, make sure the distinctive shape of the sign facing traffic is not occluded. (a 42" STOP / 30" DO NOT ENTER combination assembly, for example, work well).



24. Make sure to use the right size signs on freeways and ramps – freeway signs warning are generally 48" x 48", ramp signs are 36"x36" and stop signs should be 42". Yield signs on ramps, if used at all, should be 48".



25. If the sign in the smallest dimension is greater than 48", go to an extruded panel. Do NOT use flat sheet aluminum.

26. Check the windload charts to get the right size post. But once you're in the S & W shape posts and you're close to the top limit of the wind load – bump it up the next higher size. Notice the weld is failing on the close up of the base. The S4's at Anthem Way will have to be replaced.



27. Don't use this sign, unless there is something so odd with the ramp geometrics that this is needed.



28. Align the text on the left side and the arrow over both directions.



29. Do NOT put up signs for an unincorporated city or town. If it's on the mainline, check it versus the list of control cities before adding it.



30. Make sure the signing matches the striping.



31. Use the right size cantilever so the sign can be over the lane line. If necessary, use a sign bridge.



32. These are only two destinations. All text should be left aligned and the arrow should be centered between the two designations.



33. Check that all signs have the correct code and coloring. An update of the MOAS will soon be coming out and it will be available via the ADOT Traffic Engineering website. For example, use the current color combination of black lettering on a white background for all loop route shields.



34. Use steel washers on the sign faces. Nylon deteriorates and the sign will fail as it vibrates in the wind.



35. Don't use lead anchors to attach signs to concrete structures as the signs will break loose with wind vibration.



36. Compare the finished sign height to the signal installation so that the sign is not installed either in front of or behind the sign. Elevate one or the other so both are visible.

Consultant Traffic Signals & Lighting Design Checklist

1. Use ADOT cell libraries for Signal & Lighting designs. (adot.cel, tred.cel, CADD Standards)
2. Set up Electrical Service:
 - Meeting in the field with the power company
 - Service Request letter
 - Force Account bid item for electrical service
3. Design guidelines are not the same statewide.
4. Special Provisions.
5. Department Furnished Materials.
6. Using current notes, Special Provisions and details.
7. Following PGP 635, Traffic Signal Design and Drafting Guide.

Solution:

Meet with the ADOT Traffic Design reviewer, and District Traffic representative to get information needed.

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